



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,985	12/21/2004	Xavier Muldermans	L0008/US	3187

30522 7590 09/13/2006

KRATON POLYMERS U.S. LLC
WESTHOLLOW TECHNOLOGY CENTER
3333 HIGHWAY 6 SOUTH
HOUSTON, TX 77082

EXAMINER

JOHNSON, CONNIE P

ART UNIT PAPER NUMBER

1752

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No. 10/518,985	Applicant(s) MULDERMANS ET AL.	
	Examiner Connie P. Johnson	Art Unit 1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 11-14 and 17-28 are presented.
 - a. Claims 15 and 16 are cancelled per Applicant's request.
 - b. Claims 11, 24 and 26 are amended.
 - c. Claim 28 is new.
2. The 112, 2nd paragraph rejection over claim 26 is withdrawn.
3. The 102(b) rejection over Nakamura (U.S. Patent No. 4,468,453) is withdrawn.
4. The 103(a) rejection over Nakamura (EP 0525206) in view of DeKeyser is withdrawn.

Response to Arguments

5. Applicant's arguments, see pages 8-11, filed June 27, 2006, with respect to the rejection(s) of claim(s) 11-27 under 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the 102(b) and 103(a) rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made herein.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1752

7. Claims 11-14 and 17-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al., U.S. Patent No. 4,468,453 in view of Okamura et al., U.S. Patent .

Nakamura et al. also teaches a phototoughening composition comprising (a) a conjugated diene monomer, having a molecular weight of 100,000 to 1,000,000 and block copolymers of the formula $(A-B)_n - A_m$, A representing a thermoplastic nonelastomeric polymer, B represents an elastomeric polymer block having a glass transition temperature of less than 10°C and having a molecular weight of 25,000 to 1,000,000, n is an integer from 1 to 10 and m is 0 or 1. The elastomeric polymer block meets the limitations of a monovinyl aromatic hydrocarbon in instant claim 11 (column 4, line 22). The polymer block has a molecular weight of 2,000 to 120,000 (column 3, line 52). Component (b) comprises an ethylenically unsaturated compound and (c) a photopolymerization initiator (column 3, lines 39-60). The weight proportions of components (a), (b) and (c) relative to the composition of (a), (b) and (c) are: (a) 30 to 98%, (b) 2 to 70% and (c) 0.01 to 10% (column 3, lines 61-68). Suitable block copolymers of component (a) include polybutadiene and polyisoprene, wherein the block copolymers are no more than 90% (column 4, line 37). Component (b) may comprise esters of acrylic acid and methacrylic acid as in instant claims 17 and 19 (column 4, lines 46-47). Component (b) may also comprise trimethylolpropane triacrylate as in instant claim 18 (column 4, line 64). The photosensitive composition may also comprise at least one polymer consisting of 1,2-addition butadienes with a molecular weight of 70,000 to 500,000. The reference also teaches that suitable block A and B polymers include polyisoprene and polybutadiene (column 4, lines 20-40). The block copolymers may be mixed with polystyrene-isoprene-polystyrene as in instant

Art Unit: 1752

claim 28 (col. 4, lines 32-33). The process may be used to form a printing plate by forming a photosensitive composition layer superimposed on the surface of a substrate and exposing it to radiation (column 9, lines 1-4). The photosensitive composition may also comprise a transparent cover film, having good adherence to the photosensitive composition (column 8, line 26). The substrate comprises polyester film, such as PET as in instant claims 25 and 26 (column 12, line 7). The flexographic printing relief is equivalent to the raised printing plate. Nakamura et al. also teaches that the dry process for forming an image is also suitable for forming a relief printing plate (column 11, line 10). Nakamura does not teach a random copolymer block of (I/B) of predominately isoprene and butadiene.

However, Okamura teaches photosensitive materials with thermoplastic elastomers comprising random copolymers of isoprene and butadiene (col. 6, lines 35-67 and col. 7, lines 1-3). Since the photosensitive material comprises random copolymers of isoprene and butadiene, it is expected that the ratios are random in amounts inclusive in 20:80 and 80:20. Since the random copolymers have the same molecular weight and ratios as claimed, it is expected that the copolymers would meet the molar ratio limitations as claimed. It would have been obvious to one of ordinary skill in the art to use the random copolymers of Okamura in the composition of Nakamura because random copolymers improve performance of the photosensitive compositions as taught by Okamura (col. 7, lines 13-18).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Connie P. Johnson whose telephone number is 571-272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Connie P. Johnson
Examiner
Art Unit 1752


CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700